Task 1 :

This task is to

(a) create a business process model based on a given problem and

(b) document and communicate a business process using standard notations of the process modelling techniques.

Notes for Question (1) :

Italic = Activities need database
Bold = he kind of database
Underline = Non-information processing activity

For the sake of clarifying which activity involves which database, even though this is meant to be a table of Entity and activity the blue column is the activities involving certain databases.

Table of entities and activities

Entity	Para	No.	Activity	
Customer	2	1	Inform Them About The Nature Of The Claim And Provide Descriptions Of The Damages (Either Phone The Office Or Submit E-Form)	
Officer	3	2	Entering The Policy Number To The System	
Officer	3	3	*Check Validity Of Policy Number And Client Details*	3 Policy master data / Customer master data
Officer	3	4	*Retrieve The Automobile Information, Policy Coverage, Excess Fee From **Policy Master Data***	4 & 5 Policy master data
System	3	5	*Retrieved Policy Number **From Policy Master Data***	
System	3	6	Generates A Case Reference Number, *And Save It In **Case Event Data***	6 Case event data
Officer	4	7	The Client May Use This Reference Number Later So The Office Needs To Send It To Client	
Officer	4	8	Retrieve A List Of Certified Mechanic That Meet The Case Requirement.	8 Mechanics master data
Officer	5	9	Send A Request For Quotation To These Mechanic	
Mechanic	5	10	Reply With The Quoted Price,	
Officer	5	11	*Record The Quotes To **Quote Event Data***	11 Quote event data
Assessor (1.2)	5	12	*Newly Received Quotes Will Be Compared With The Existing Quotes Collected From Previous Claims, After Retrieving From **Quote Event Data***	12 Quote event data
Assessor (1.3)	5	13	Send An Advice To The Officier	
Officer	5	14	Shortlist The Appropriate Mechanic	
Officer	5	15	Send Listed Workshops For Repair To Customer	
Mechanic	5	16	Send Invoice To Accountant	
Accountant (1.1)	5	17	Post Cheque To Mechanic	
Accountant (1.1)	6	18	Sends A Copy Of The Invoice To The Insurance Office	
System	6	19	*Data Are Kept In **Account Master Data** By Officer*	19 Account master data
Officer	6	20	*Update The Claim In The **Case Event Data***	20 Case Event data
Officer	6	21	Inform Client	
Customer	6	22	Acknowledge The Repair Work	
Customer	6	23	Pay Excess Fee (If Necessary)	
Officer	6	24	Collect Information Liable Person (If Not Liable Party)	
Officer	6	25	Sends Invoice To Liable Person's Insurance Company	

Classification	5w2h questions	Description	
People	Who?	Who is performing the accounting services?	Outsourced accountant performs sending the copy of receipt and perform accounting services
Subject matter	What?	What is being done in this outsourcing services?	According to Cogneesol, one of the largest consulting firms, there are many services provided. Few are listed : - BOOKKEEPING SERVICES -ACCOUNTS PAYABLE SERVICES -ACCOUNTS RECEIVABLE SERVICES
Sequence	When?	When is the best time to perform this outsourcing services?	In the context of this narrative, the best time to use outsourced accountant is when Mechanics repaired the car and send a receipt to the accountant. The Accountant provides account payable services.
Location	Where?	Where is this outsourcing services carried out? Does it have to be done at this location?	In the accountant's office. No, it could be elsewhere, as long as there is computer for the accountant to analyse.
Purpose	Why?	Why is this outsourcing services needed? Clarify its purpose.	1. It is assumed that outsourced accounting services can save the company's cost. Such a scale of companies often provides various types of service, not limited to automobile repair. Hiring in-house accountants for handling many types of products can be costly and tedious (both in time and money) to them. Mohit Sharma mentioned that outsourced accounting services for insurance companies can be gained financially as it eliminates the need to spend money on payroll and infrastructure. This works particularly well in developed nations like the UK (Sharma. M, 2019). 2. Third parties also bring greater economies of scale. The reason is, according to the Economist, the third party is able to pool the activity of a large number (Economist, 2017).
Method	How?	How is the outsourcing services carried out?	They create invoices based on Mechanics' evidence such as repair confirmations and sale order copies, which then sent it to the insurance company.
Cost	How much?	How much does it currently cost?	Without more financial details from the narrative, it can hardly be of the exact amount. However, it is generally estimated that the cost of outsourcing is usually cheaper than hiring in-house staff.

Assumption 1.1 : The accountant is outsourced and therefore an external entity.

The above framework explained that the company outsourced its accounting services.

Moreover, the sentence narrative mentioned that the Accountant sends a copy of the invoice to the insurance office so it is supposed there is no direct relationship between the Accountant and the Insurance company. Account master data is not fully accessed to the outsourced Accountant.

Therefore, I would think that the officer keeps the payment data into the Account master data. Considering that, the Accountant is an external entity, which does not involve in any information processing activities.

Assumption 1.2 : It is the Assessor who compares the quotes

"The assessor first examines the damage before making a final decision in relation to the claim."

Since the Assessor understands the level of damage, validity of the claim, damage significance and estimated repair complexity, if Assessor has the access to Quote event data and retrieves newly received quotes as well as the existing quotes, he compares the quote.

The assessor is more likely the one who compares the quotes given that he knows the situation of damage and has the expertise in this area. He recommended cost estimate. It is more reasonable to have quotes compared to have throughout advice.

If not Assessor to compare, then it would be the officer. But it might not be as reasonable for the officer to compare. The officer's duties are meant to handle the administrative tasks like data entry, sending and verifying customers' data. The quote comparison involves **decision making for the insurance company** which requires a certain degree of expertise, thus Assessor comparing the quotes.

Assumption 1.3 : The advice from Assessor to the officer is an information processing activity

A comparison of quotes is an information processing activity because the data retrieved needs to be processed using functions like sorting and calculation. After analysing which mechanic to choose and examination of the automobile, it is assumed that the advice will be summarised and documented as a text file. This file is a transformation from raw data into information as it is including input with the sorted data then analyse it and lastly output as a piece of information.

Assumption 1.4 : Why are the step of assessor's examination and customer sending automobile for repair not mentioned in the table ?

Even though some might dispute that this step is important in regard to the claim, this step is performed outside of the system. Therefore it is assumed that these steps are not involved in information processing activities and the scope of system, therefore examination is not mentioned.

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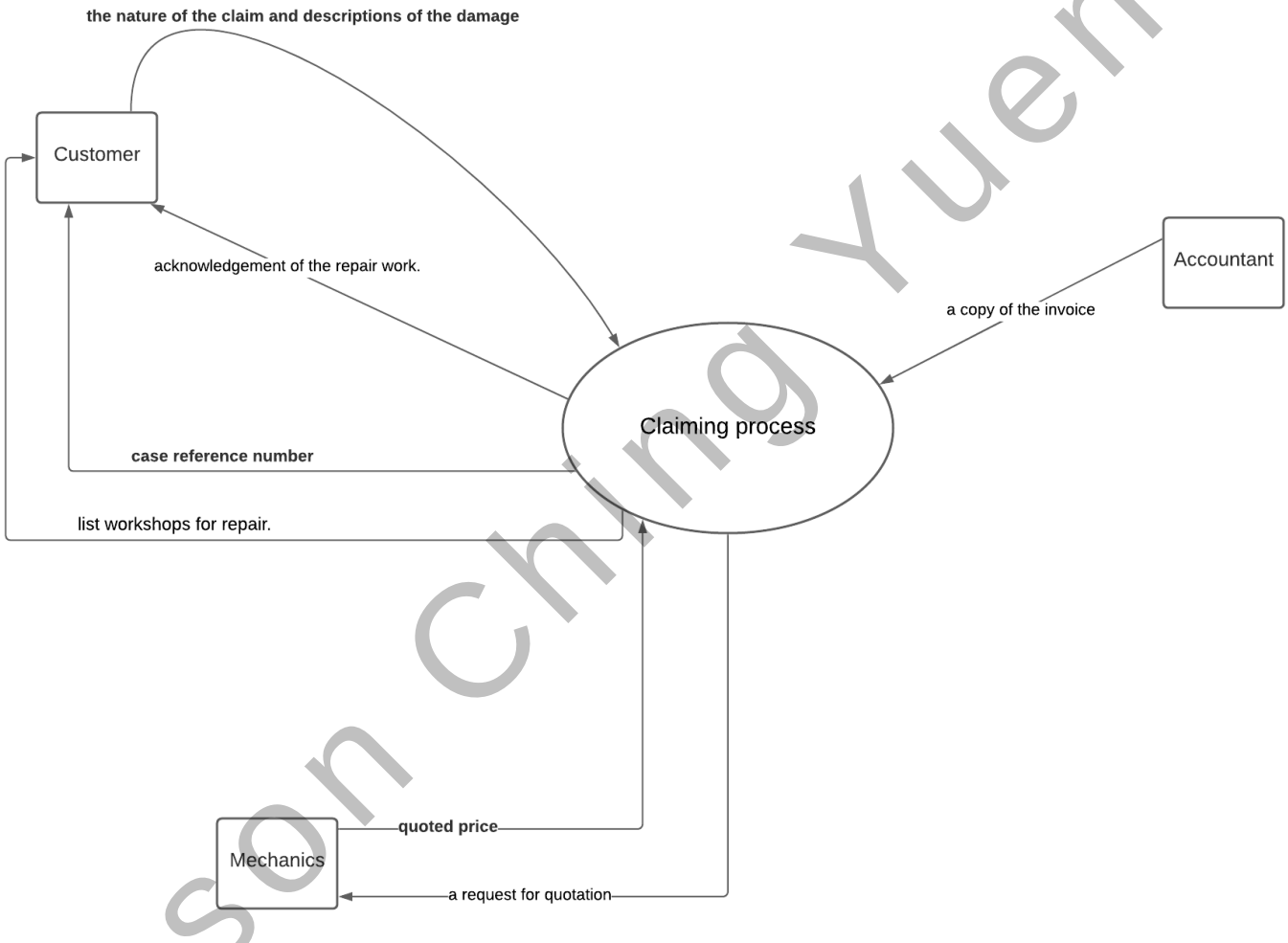
Q2) Context diagram



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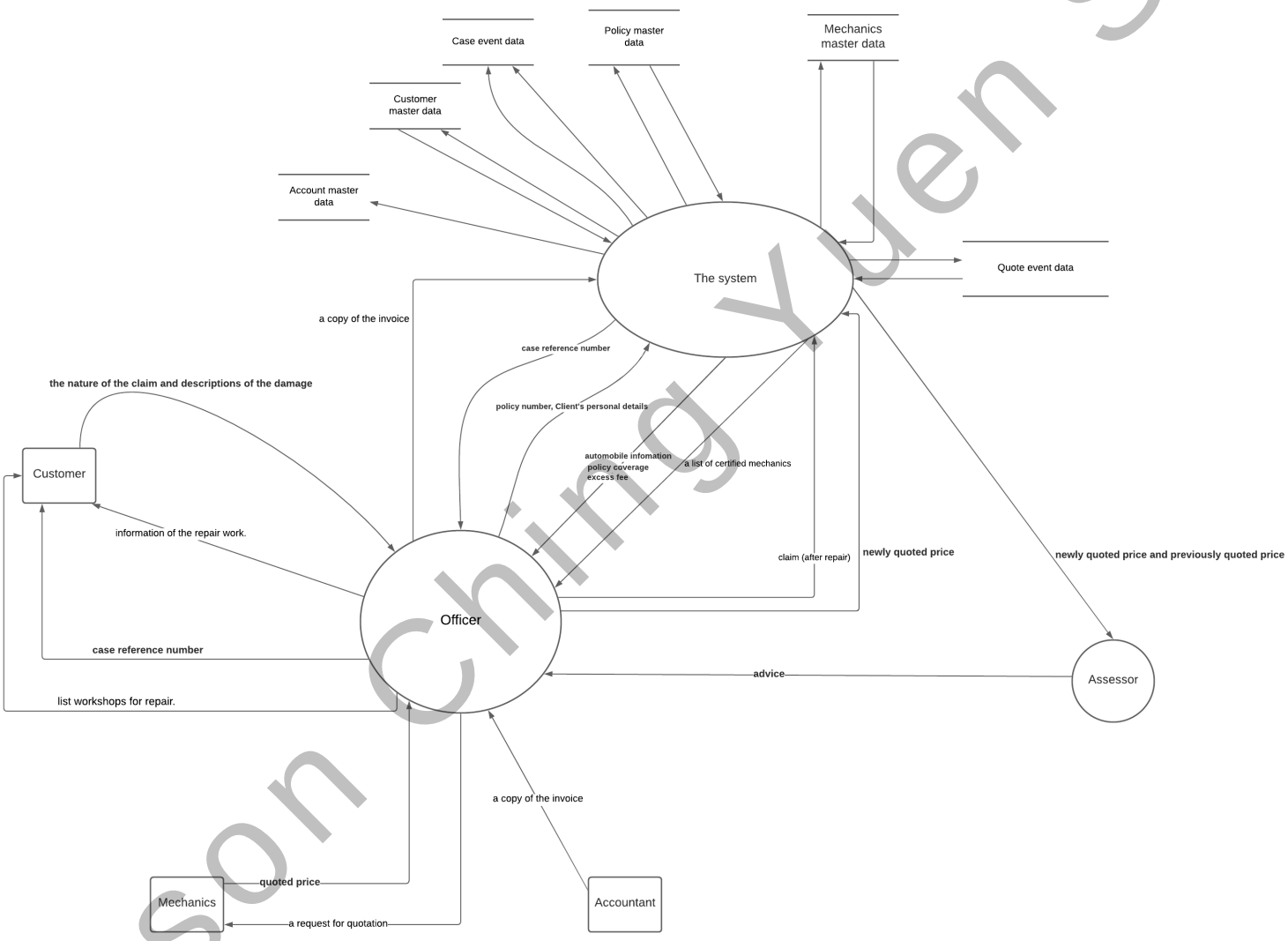
Q3) Physical DFD



Question (4) :

Table of entities and activities (Annotated)

Entity	Para	No.	Activity	
Customer	2	1	Inform Them About The Nature Of The Claim And Provide Descriptions Of The Damages (Either Phone The Office Or Submit E-Form)	1.0 Lodge Claim
Officer	3	2	Entering The Policy Number To The System	
Officer	3	3	*Check Validity Of Policy Number And Client Details !*	
Officer	3	4	*Retrieve The Automobile Information, Policy Coverage, Excess Fee From* ***Policy Master Data***	
System	3	5	*Retrieved Policy Number* ***From Policy Master Data***	
System	3	6	Generates A Case Reference Number, *And Save It In* ***Case Event Data***	
Officer	4	7	The Client May Use This Reference Number Later So The Office Needs To Send It To Client	
Officer	4	8	Retrieve A List Of Certified Mechanic That Meet The Case Requirement.	2.0 Evaluate Repair and Confirm Mechanics list
Officer	5	9	Send A Request For Quotation To These Mechanic	
Mechanic	5	10	Reply With The Quoted Price.	
Officer	5	11	*Record The Quotes To* ***Quote Event Data***	
Assessor (1.2)	5	12	*Newly Received Quotes Will Be Compared With The Existing Quotes Collected From Previous Claims, After Retrieving From* ***Quote Event Data***	
Assessor (1.3)	5	13	Send An Advice To The Officier	
Officer	5	14	Shortlist The Appropriate Mechanic	
Officer	5	15	Send Listed Workshops For Repair To Customer	
Mechanic	5	16	Send Invoice To Accountant	3.0. Update Payment and close claim
Accountant (1.1)	5	17	Post Cheque To Mechanic	
Accountant (1.1)	6	18	Sends A Copy Of The Invoice To The Insurance Office	
System	6	19	*Data Are Kept In* ***Account Master Data*** *By Officer*	
Officer	6	20	*Update The Claim In The* ***Case Event Data***	
Officer	6	21	Inform Client	
Customer	6	22	Acknowledge The Repair Work	
Customer	6	23	Pay Excess Fee (If Necessary)	

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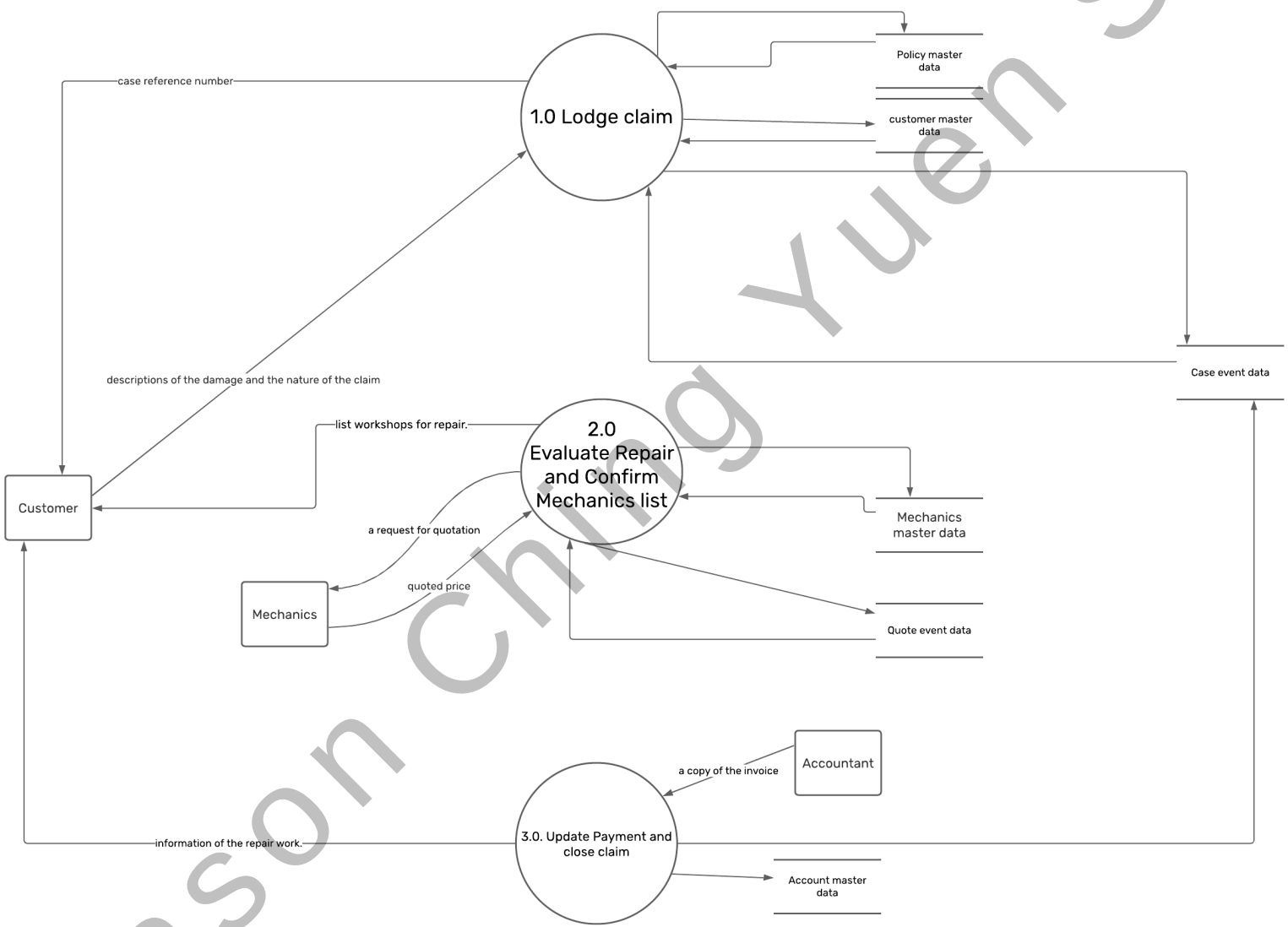
Q5) Level 0 logical DFD



Question (6) :

Assumption :

Assumption 6.1) Why didn't I include the client calling phone or filling form in the system flowchart?

The client will inform the officer of the nature of the claim and provide descriptions of the damage either way and the officer will receive it either way. And it does not directly relate to the system. Therefore, I do not include a phone call or an E-form.

Assumption 6.2) How advice can be transformed to the officer?

The advice must not be verbal but drafted in a document as a record so that the officer can take reference more easily.

Assumption 6.3) The the below three **conditional** routines are included. For the reasons that :

Routine 1 : "In case the client lost the policy number, the client's personal details such as full name, phone numbers, etc can be used to look up their insurance policies."

As per Routine 1, it is reasonable to assume clients frequently forget or lose the policy number as it can be hard to remember or find it. Therefore, it is not exceptional but the officer's routine to help verify customers using Customer master data.

Routine 2 : "In this case, the client needs to pay excess fees, the payment should be made to the company's accountant."

As per Routine 2, the primary driver of the vehicle, who is non-policyholder can happen often, particularly sons or daughters using parents' cars (Hunter, 2017). As the statistic that Car accidents are responsible for over 60% of deaths among 17-20-year-old Australian (Hudson, 2020). This means that there could be many non-policyholders if teenagers did not buy insurance but were driving their parents' car as an additional driver, crashed in accidents. This is just one of the examples, whereas cases could be like friends driving a friends car or so. As a result, these claim cases become routine for policyholders paying excess fees. It is not exceptional cases due to the frequency of claims.

Routine 3 : "In the case where the policyholder is not a liable party, the insurance officer will collect information about the liable person and send an invoice to their insurance company."

As per Routine 3, if the policyholder is not a liable party, which could be half a chance as either liable or not, the insurance officer will collect information about the liable person from other insurance companies. This means that 50% of the insurance officer will collect information. Therefore, the officer often receives such cases that they have to handle, deeming to be a routine rather than an exception.

Considering that these steps can be proceeded as planned so these steps are shown in the entity table and illustrated in the system flowchart.

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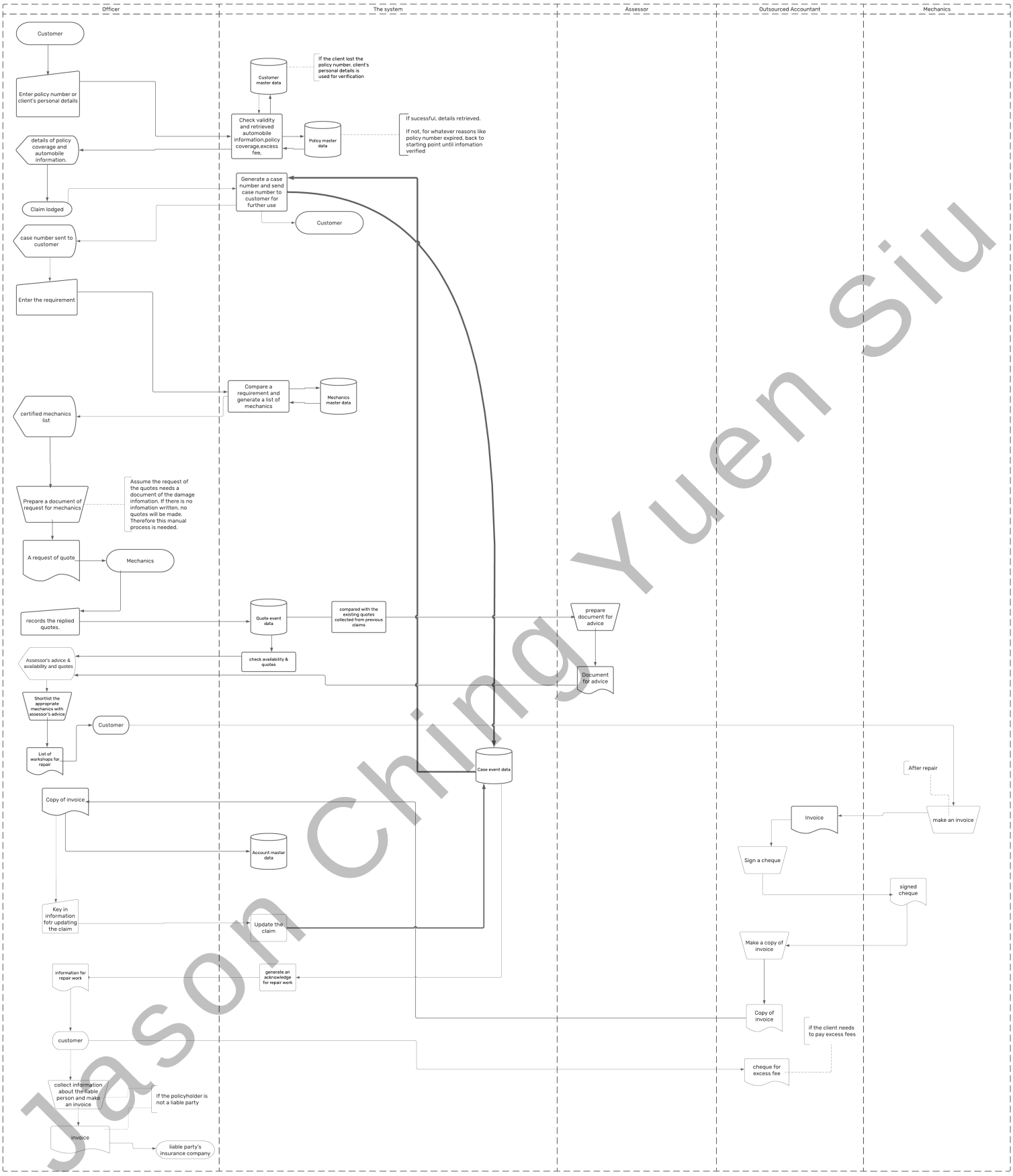
Q6) System Flowchart



Reference :

Sharma, M. (2016). Role Of Outsource Accounting for Insurance Businesses. Retrieved from Cogneesol Blog website: https://www.cogneesol.com/blog/role-of-outsource-accounting-for-insurance-businesses

The Economist. (2017). The world's most valuable resource is no longer oil, but data. Retrieved from The Economist website: https://www.economist.com/leaders/2017/05/06/the-worlds-most-valuable-resource-is-no-longer-oil-but-data

Hunter, G. (2017). Can I get car insurance under my parent's name? Retrieved from https://www.finder.com.au/car-insurance-fronting

Hudson, C. (2020). Teenagers & Cars: A Deadly Combination. Retrieved from Understanding Teenagers website: https://understandingteenagers.com.au/teenagers-cars-a-deadly-combination/

Task 2 :

1. Discuss how organisations could use business information systems (BIS) to achieve their business goals. (10 marks)

In terms of effectiveness, **BIS can better operational efficiency through applying Machine Learning. Organisations realise the importance of BIS.** For insurance industry, the explosion of fraudulent claims becomes a tremendous detriment for revenue growth as costs of finding fraudulent and its claim loss can be as astronomical as $2.2 billion AUD in Australia (IFBA, 2017) or even worse 80 billion USD in the US (Glanz, 2014). The mentioned insurance corporation could use BIS not only to store data of Automobile repair but also process data into profitable information. Such types of organisations are large enough to offer a variety of products that Automobile is a category of their products. This means they possess large amounts of dataset to flag suspicious frauds. They might even apply Machine Learning and customise scoring software in BIS to keep their competitive edges. With algorithms learning over time to improve models, BIS's strength is in identifying pattern patterns in data (Remane et al. , 2017). As the amount of automobile insurance increases, a claim continues to rescore with higher accuracy at higher speeds. The mentioned company need not put manpower in reviewing frauds. This saves both time and money. Therefore, BIS's automation enables better resource allocation. Also, deploying Blue Ocean Strategy, if companies develop mature models, they can increase yields. Apart from insurance services, their business diversifies into providing fraudulent detection services. This new potential becomes a fresh stream of income.

Strategically, **another advantage is BIS enhances customers' loyalty, thus helping organisation increase revenues.** When most organisation offer products with competitive prices and fairly quality of services, clients easily can replace on insurer by another (Kaigorodova, Mustafina, & Alyakina, 2018). Therefore, what matters more are customer orientation. CRM system can summarize customers' profiles, knowing previous history with organisations. The customers' details enable the mentioned company to analyse their preference. The more one knows, the better customisation to predict. By knowing a customer has a family, for example, the mentioned company can also offer a family package. If they know the customer is a driver with cars for work and normal use, they can even offer various products. This customer-centricity can let them feel valued and meet their needs. Also, customer behavioural data stored in BIS merging with financial data, companies can easily forecast the sales. Therefore, BIS boosts profits.

2. Discuss the advantages of integrated enterprise systems for an organisation with similar business processes. (10 marks)

Integrated Enterprise Systems (IES) optimises business processes. One of the main features is IES share a common database. The case showed the officer had to retrieve different data from different datastores like mechanics and customer databases. Client cases rely heavily on scattered data from quote events and mechanics. Errors are more likely to occur when handling huge amounts of data from different clients. As the term "Garbage In, Garbage Out" illustrates, this low quality of data jeopardises images and brings prohibitive costs towards the mentioned company (Hagiu A and Wright J, 2020). Inefficient processes often take long. If the in-charge Assessor is busy or on vacation, a claims request could be on-hold until the right person is back (Morgan, B, 2017). Companies using a common database can often avoid these tedious tasks. A single database can ensure that information used across enterprises is based on common definitions and user experiences, (Oracle,2020) with least human intervention. This means every department is consistently using quality data. The Assessor no longer needs to send advice to officers, for example, since they are sharing the same database. This ensures that they are utilising the same datasets and are on the same page. Therefore, a common database simplifies these business processes with high data integrity.

IES also enriches financial management. It integrates resources from human resources (the officer), finance (accountants) and even external entities (mechanic). The software is able to automate various types of reports. For example, the financial report can be based on the clients' preference digging from CRM and mechanic's availability and quotes from its database. These reports give companies more than just financial data. They help companies manage their business more effectively.

In conclusion, IES improves companies' productivity and financial management.

Reference :

Insurance Fraud Bureau of Australia [IIBA] (2017). The Cost of Fraudulent Claims for Insurance Companies). Retrieved from https://sureteinvestigations.com.au/the-cost-of-fraudulent-claims-for-insurance-companies/

Glanz, J (2014). 5 Key Elements to Spotting Fraud. Retrieved from https://www.assuranceagency.com/blog-post/5-key-elements-to-spotting-fraud

Remane et al. (2017) The Business Model Pattern Database — A Tool For Systematic Business Model Innovation. Retrieved from https://www.researchgate.net/publication/304027590_The_Business_Model_Pattern_Database_-_A_Tool_For_Systematic_Business_Model_Innovation

Kaigorodova, G. N., Mustafina, A. A., & Alyakina, D. P. (2018). Directions of improving information system of insurance company. *Journal of Physics: Conference Series*, *1015*, 042016. https://doi.org/10.1088/1742-6596/1015/4/042016

Hagiu A and Wright J (2020). When Data Creates Competitive Advantage. Retrieved from Harvard Business Review website: https://hbr.org/2020/01/when-data-creates-competitive-advantage

Oracle.Com. (2014). *What is ERP? | Oracle*. https://www.oracle.com/applications/erp/what-is-erp.html

Morgan, B. (2017). How Artificial Intelligence Will Impact The Insurance Industry. Retrieved, from Forbes website: https://www.forbes.com/sites/blakemorgan/2017/07/25/how-artificial-intelligence-will-impact-the-insurance-industry/#4b15d4b6531aRetrieved from

Appendix :

Blue Ocean Strategy : https://www.blueoceanstrategy.com/what-is-blue-ocean-strategy/